

CLAIMS

1. A digital copying apparatus for making a copy of a document, wherein a document has an orientation associated with a physical direction of the document with respect to the apparatus, and wherein a document contains an image with a reading direction and with an image orientation with respect to the document, which comprises

5 \ - a scanner unit for scanning a document to generate a digital image corresponding to the image on the document,

15 \ - a processing unit for processing the digital image,

3 \ - a printer unit for making a copy of the image by converting the digital image into an image on a receiving medium, observing the image orientation established for the 10 image on the document, and

18 \ - a control unit connected to the scanner unit, the processing unit and the printer unit, wherein

15 the control unit automatically defines the image orientation of the image on each document on the basis of the orientation of the document and on an assumption that the reading direction of the image on the document is always situated in a fixed predetermined position with respect to the scanner unit.

2. The apparatus according to claim 1, wherein the reading direction assumed by the control unit corresponds to the reading direction of an operator standing in front of the apparatus.

20 3. The apparatus according to claim 1, also comprising

 - a finishing unit for finishing copies, and observing the image orientation automatically established for the image on the document.

4. The apparatus according to claim 3, wherein the finishing unit comprises at least one stapling head.

5. The apparatus according to claim 3, wherein the finishing unit comprises a punching device.

5 6. The apparatus according to claim 3, wherein the finishing unit comprises a binding unit.

7. Apparatus according to claim 1, wherein the printer unit is adapted to make duplex copies by duplex printing of the receiving medium, wherein the printer unit, when making duplex copies of simplex documents, automatically 10 selects the binding edge for each copy at a fixed predetermined side with respect to the automatically defined image orientation of the image on the document.

8. Apparatus according to claim 1, wherein the processing unit is adapted to make combination copies by combining at least two images, each originating from a different document, on one side of the receiving medium, wherein 15 the printer unit, when making combination copies automatically, selects for each copy an orientation based on the automatically defined image orientation of the images on the documents.

9. The apparatus according to claim 8, wherein the printer unit can only make copies with a fixed copy orientation, and wherein the processing unit is also

provided with a rotation device for rotating digital images through right angles or a multiple thereof, wherein

the processing unit, if necessary, switches on the rotation device in order to rotate images for combination and combines the images for combination, possibly after 5 rotation, in a sequence which it selects automatically on the basis of the automatically defined image orientation of the images on the documents.

10. Apparatus according to claim 1, wherein the processing unit is adapted to break down combination documents by generating digital images, each corresponding to a different image on one side of such a document, wherein

10 the control unit automatically defines for each document the image orientation of the images on one side of the document on the basis of the orientation of the document and on an assumption that the reading direction of the images on the document is always situated in a fixed predetermined direction with respect to the scanner unit, and wherein when breaking down combination documents, the processing unit processes 15 the said digital images observing said image orientation.

11. A method of making a copy of a document in a digital copying apparatus, wherein the document has an orientation associated with a physical direction of the document with respect to the apparatus, and wherein the document contains an image with a reading direction and with an image orientation with respect to the document, 20 which method comprises

- scanning a document with a scanner unit and in so doing generating a digital image corresponding to the image on the document,
- processing digital images,

- making a copy with a printer unit based on converting a digital image into an image on a receiving medium, and if necessary, observing the image orientation established for the image on the document, wherein

the image orientation of the image on each document is defined automatically on

5 the basis of the orientation of the document and an assumption that the reading direction of the image on the document is always situated in a fixed predetermined direction with respect to the scanner unit.

12. The method according to claim 11, wherein the assumed reading direction corresponds to the reading direction of an operator standing in front of the apparatus.

10 13. The method according to claim 11, also comprising
- finishing copies observing the image orientation automatically established for the image on the document.

14. The method according to claim 13, wherein the finishing step comprises applying one or more staples.

15 15. The method according to claim 13, wherein the finishing step comprises punching one or more holes.

16. The method according to claim 13, wherein the finishing step comprises binding a set of copies.

20 17. The method according to claim 11, wherein the printing step comprises making duplex copies by duplex printing of the receiving medium, wherein,

in the printing step, in the making of duplex copies of simplex documents, the binding edge for each copy is automatically selected at a fixed predetermined side with respect to the automatically defined image orientation of the image on the document.

18. The method according to claim 11, wherein the processing step also

5 comprises the making of combination copies, by combining at least two images, each originating from a different document, on one side of the receiving medium, wherein

in the printing step, in the making of combination copies, the orientation selected automatically for each copy is made on the basis of the automatically defined image orientation of the images on the documents.

10 19. The method according to claim 18, applied in an apparatus with a printing

unit which can only make copies with a fixed copy orientation,

wherein the processing step is adapted to rotate through right angles the images for combination, and

wherein the images for combination, possibly rotated, are combined in a

15 sequence which is automatically selected on the basis of the automatically defined image orientation of the images on the documents.

20. The method according to claim 11, wherein the processing step is adapted

to break down combination documents into digital images each corresponding to a different image on one side of such a document,

20 wherein the image orientation of the images on one side of the document is automatically defined for each document on the basis of the orientation of the document and an assumption that the reading direction of the images on the document is always situated in a fixed predetermined direction with respect to the scanner unit, and wherein,

in the processing step, in the breakdown of combination documents, the said digital images are processed observing said image orientation.

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